Industrial Ethernet Gateways

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Industrial Ethernet Gateways

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	MGate MB3180	MGate MB3280	MGate MB3480	MGate MB3170 (-IEX) MGate MB3170-T (-IEX) MGate MB3170I (-IEX) MGate MB3170I-T (-IEX)	MGate MB3270 (-IEX) MGate MB3270-T (-IEX) MGate MB3270I (-IEX) MGate MB3270I-T (-IEX)	MGate EIP3170 (-IEX) MGate EIP3170-T (-IEX) MGate EIP3170I (-IEX) MGate EIP3170I-T (-IEX)	MGate EIP3270 (-IEX) MGate EIP3270-T (-IEX) MGate EIP3270I (-IEX)
Ethernet Interface							
Protocol	Modbus TCP					CIP (PCCC) on Ethernet/IP	
Number of Ports	1			2 (1 IP, Ethernet cascade)			2 (2 IPs)
Speed	10/100 Mbps, Auto MDI/MDIX						
Connector	RJ45						
Magnetic Isolation Protection	1.5 kV (built-in)						
Serial Interface							
Protocol	Modbus RTU/ASCII Slave/Master					DF1 Full-duplex	
Number of Ports	1	2	4	1	2	1	2
Serial Standards	RS-232/422/485					RS-232/422	
Connectors	DB9-M			RS-232: DB9-M RS-422/485: Terminal block	DB9-M	RS-232: DB9-M RS-422: Terminal block	DB9-M
ESD Protection	15 kV						
RS-485 Data Direction Control	ADDC®					–	
Serial Communication Parameters	Data Bits: 7, 8 Stop Bits: 1, 2					Data Bits: 8 Stop Bits: 1, 2	
Parity	None, Even, Odd, Space, Mark					None, Even, Odd	
Flow Control	RTS/CTS, DTR/DSR (RS-232 only)						
Baudrate	50 bps to 921.6 Kbps					1200 bps to 921.6 Kbps	
Isolation	–	–	–	2 kV (built-in, -I model only)			
Software							
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)						
Smart Routing	✓	✓	✓	✓	✓	✓	✓
Serial Redirection	–	–	–	–	✓	–	✓
ProCOM	–	–	–	✓	✓	✓	✓
Priority Control	–	–	–	✓	✓	–	–
MXview	✓	✓	✓	✓	✓	✓	✓
SNMP	v1 (read only)						
Physical Characteristics							
Housing	Metal (IP30)			Plastic			
Dimensions	22 x 52 x 80 mm	22 x 77 x 111 mm	35.5 x 102.7 x 157.2 mm	29 x 89.2 x 118.5 mm			
Environmental Limits							
Operating Temperature	0 to 55°C			0 to 60°C or -40 to 75°C (-T model only)			
Operating Humidity	5 to 95% RH						
Storage Temperature	-20 to 70°C			-40 to 85°C			
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand						
Power Requirements							
Input Voltage	12 to 48 VDC						
Power Connector	Power jack	Power jack and terminal block		Terminal block			
Standards and Certifications							
Safety	UL 60950-1, EN 60950-1			UL 508, EN 60950-1			
Hazardous Location	–	–	–	UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nA IIC T3 Gc, IECEx (-IEX model only)			
EMC	CE, FCC						
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A						
EMS	EN 55024, EN 61000-4-2 (ESD) Level 2, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 1, EN 61000-4-11			EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 1, EN 61000-4-11			
Marine	–	–	–	DNV		–	–
Shock	–	–	–	IEC 60068-2-27			
Freefall	–	–	–	IEC 60068-2-32			
Vibration	–	–	–	IEC 60068-2-6			
Reliability							
Warranty	5 years (see www.moxa.com/warranty)						

Industrial Ethernet Gateways

	MGate 4101-MB-PBS MGate 4101-MB-PBS-T MGate 4101I-MB-PBS MGate 4101I-MB-PBS-T	MGate 5101-PBM-MN MGate 5101-PBM-MN-T	MGate 5102-PBM-PN MGate 5102-PBM-PN-T	MGate 5105-MB-EIP MGate 5105-MB-EIP-T
Ethernet Interface				
Protocol	–	Modbus TCP	PROFINET RT	EtherNet/IP, Modbus TCP
Number of Ports	–	1	2 (1 IP, Ethernet cascade)	
Connectors	–	RJ45		
Magnetic Isolation Protection	–	1.5 kV (bulit-in)		
Speed	–	10/100 Mbps, Auto MDI/MDIX		
PROFIBUS Interface				
Protocol	PROFIBUS DP-V0 Slave	PROFIBUS DP-V1 Master		–
Number of Ports	1			–
Data Rate	9600 bps to 12 Mbps			–
Connector	DB9-F			–
Isolation Protection	2 kV (built-in)			–
Modbus Interface				
Number of Ports	1	–	–	1
Serial Standards	RS-232/422/485, software selectable	–	–	RS-232/422/485, software selectable
Connectors	DB9-M	–	–	DB9-M
ESD Protection	15 kV	–	–	–
RS-485 Data Direction Control	ADDC®	–	–	ADDC®
Serial Communication Parameters	Data Bits: 7, 8 Stop Bits: 1, 2	–	–	Data Bits: 5, 6, 7, 8 Stop Bits: 1, 1.5, 2
Parity	None, Even, Odd, Space, Mark	–	–	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, DTR/DSR (RS-232 only)	–	–	RTS/CTS, RTS Toggle
Baudrate	50 bps to 921.6 Kbps	–	–	50 bps to 921.6 kbps
Isolation Protection	2 kV (built-in, -I model only)	–	–	2 kV (built-in)
Software				
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)			
QuickLink	✓	–	–	–
Paging	✓	–	–	–
AutoScan	–	✓	✓	–
MXview	–	✓	✓	✓
SNMP	–	v1, v2, v3, Private MIB		
Physical Characteristics				
Housing	Metal (IP30)			
Dimensions	36 x 105 x 140 mm			
Storage Card Slot	–		1 microSD (SDHC) card slot (supports up to 32 GB)	
Environmental Limits				
Operating Temperature	0 to 60°C or -40 to 75°C (-T model only)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-40 to 85°C			
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand			
Power Requirements				
Input Voltage	12 to 48 VDC			
Power Connector	Terminal block			
Standards and Certifications				
Safety	UL 60950-1, EN 60950-1		UL 508, EN 60950-1	
Hazardous Location	UL/cUL Class 1 Division 2 Groups A/B/C/D (Pending), ATEX Zone 2 Ex nA nC IIC T3 Gc (Pending), IECEx (Pending)		UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nA nC IIC T3 Gc, IECEx (Pending)	
EMC	CE, FCC			
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A			
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 1	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 1	EN 55024, EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 3	
Shock	IEC 60068-2-27			
Freefall	IEC 60068-2-32			
Vibration	IEC 60068-2-6			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

Industrial Ethernet Gateways (Wireless)

	MGate 5106-DNMB-GSM MGate 5106-DNMB-GSM-T	MGate 5207-DNMB-HSPA MGate 5207-DNMB-HSPA-T
Ethernet Interface		
Protocol	Modbus TCP, DNP3 IP	
Number of Ports	1	2 (1 IP, Ethernet cascade)
Connectors	RJ45	
Magnetic Isolation Protection	1.5 kV (built-in)	
Speed	10/100 Mbps, Auto MDI/MDIX	
Serial Interface		
Protocol	Modbus RTU/ASCII, DNP3 Serial	
Number of Ports	1	2
Serial Standards	RS-232/422/485, software selectable	
Baudrate	50 to 921.6 Kbps	
Flow Control	RTS/CTS, RTS Toggle	
Serial Communication Parameters	Data Bits: 5, 6, 7, 8 Stop Bits: 1, 1.5, 2	
Parity	None, Even, Odd, Space, Mark	
Connector	DB9-M	
Wireless Network		
Number of SIM Card	1	2
Number of Antenma	1	2
Broadband	GSM/GPRS: 850/900/1800/1900 MHz	GSM/GPRS/EDGE: 850/900/1800/1900 MHz, UMTS/HSPA: 850/900/1700/1900/2100 MHz, AWS: 1700/2100 MHz
Generation	2.5 G	3.75 G
Class	GPRS: 10	GSM: 4 (850/900), 1 (1800/1900) EDGE: E2, WCDMA: 3
Inputs and Outputs		
Digital Input	1 channel	2 channels
Digital Output	1 channel	2 channels
Contact Type	4-pin terminal block	6-pin terminal block
DI:Dry Contact	Logic 0: Short to GND Logic 1: Open	
DI:Wet Contact (COM to DI)	Logic 0: +10~30 VDC Logic 1: 0~+3 VDC	
DOUT (Sink Type)	Current: Max. 200 mA Per channel Voltage: Max. 30 VDC	
Software		
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)	
Network Protocol	UDP/TCP, SNTP, ICMP, DDNS, DHCP, PPP, DNS, HTTP/HTTPS, Telnet, SSH, SNMP, ARP	
VPN	IPSec, PPTP, L2TP, Port Forwarding, IP Filter	
MXview	✓	
SNMP	v1, v2, v3, Private MIB	
Physical Characteristics		
Housing	Metal (IP30)	
Dimensions	45.8 x 134.8 x 105 mm	
Storage Card Slot	–	1 microSD (SDHC) card slot (supports up to 32 GB)
Environmental Limits		
Operating Temperature	0 to 60°C or -40 to 75°C (-T model only)	
Operating Humidity	5 to 95% RH	
Storage Temperature	-40 to 85°C	
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand	
Power Requirements		
Input Voltage	9 to 60 VDC	
Power Connector	3-pin terminal block	
Standards and Certifications		
Safety	UL 508, EN 60950-1	
EMC	CE, FCC	
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A	
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 3	
Shock	IEC 60068-2-27	
Freefall	IEC 60068-2-32	
Vibration	IEC 60068-2-6	
Radio	FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-7, EN 301511	FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-24, EN 301908-1
Reliability		
Warranty	5 years (see www.moxa.com/warranty)	

Introduction to Industrial Ethernet Gateways

Get Integrated—It's Quick, Easy, and Reliable

Innovative and Easy-to-Use Industrial Gateways Create Seamless Connections and Compatibility

The need for industrial Ethernet gateway solutions is not only driven by the increasing demand for connecting industrial Ethernet protocols (such as EtherNet/IP, Modbus TCP, or PROFINET) to existing fieldbus networks, but by maximizing efficiency as well. Moxa's comprehensive industrial Ethernet gateway solutions, the MGate series, are designed with innovative and automated technology to ensure quick installation and easy management of your industrial fieldbus-to-Ethernet networks. To help you master fieldbus communications, Moxa also delivers industrial fieldbus gateways to transfer control data between different fieldbus protocols.

Quick Installation, in Just Minutes

To assist engineers of complex industrial automation systems with the troublesome configuration process, Moxa's MGate industrial gateway solution, MGate Manager, provides a user-friendly windows-based utility to make integration easier. It contains AutoCalibration or QuickLink patented technologies to enable a quick installation and configuration of industrial gateways in just minutes.

AutoCalibration

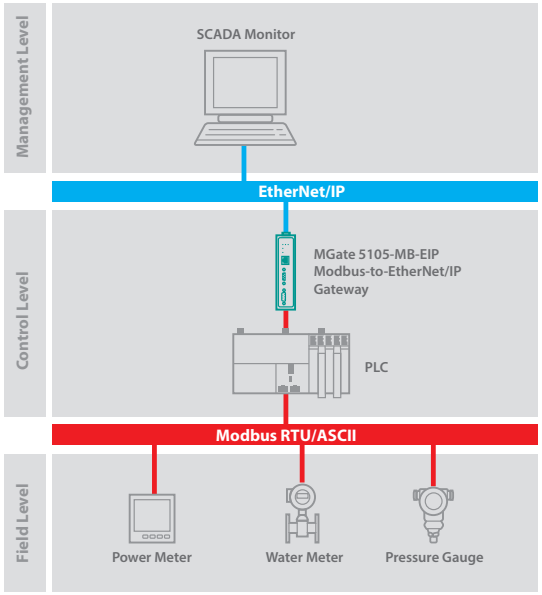
1-click Detection of Response Timeout

In master-slave fieldbus communication networks, precise response timeout settings are an important yet complicated task for network integrators when trying to calibrate accurate timeframes to achieve optimized system performance. In the past, integrators often spent a substantial amount of time in trying to manually configure timeout settings through trial-and-error methods. Moxa's patented AutoCalibration technology offers a 1-click automated approach to auto-configure response timeout settings.

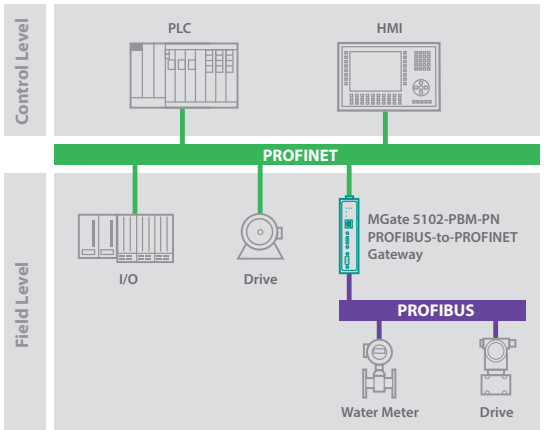
Products: MGate MB3180/3280/3480 Series, MGate MB3170/3270 Series

Typical MGate Gateway Applications

- **PLC as slave:**
  Integrate field devices to allow remote monitoring and management



- **PLC as master:**
  Integrate new intelligent devices with existing devices



QuickLink

AutoLearning and AutoMapping Intelligence for Connecting Modbus to PROFIBUS

QuickLink, an innovative Moxa technology, simplifies the configuration of gateways to enable seamless connections between Modbus and PROFIBUS communications. QuickLink supports intelligent AutoLearning and AutoMapping, and replaces traditional methods of gateway configuration that are tedious and time-consuming. QuickLink is a standard feature of Moxa's MGate Manager utility that not only allows system integrators to finish their gateway configuration in just minutes, but also ensures that configurations are done right the first time, virtually eliminating the possibility of human error.

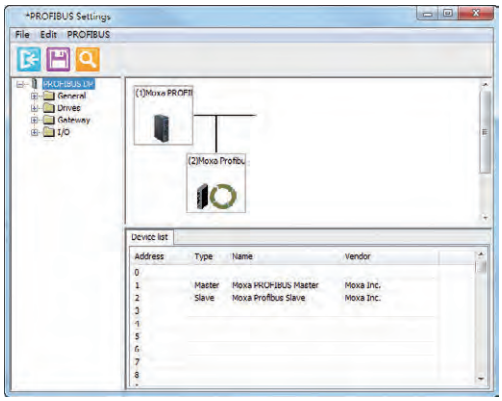
Products: MGate 4101-MB-PBS Series

AutoScan

One-Click Detection of I/O Parameters

Moxa's industrial Ethernet gateways feature AutoScan, which detects all connected PROFIBUS slave devices and their available Read Configuration Data (Get_Cfg). After configuration is done, an easy-to-read data mapping table is created to assist in the configuration of Modbus TCP masters, such as SCADA servers and PLCs. With Moxa's AutoScan, you no longer need to spend a lot of time configuring devices yourself, but instead can focus on monitoring data without needing to worry about every different protocol.

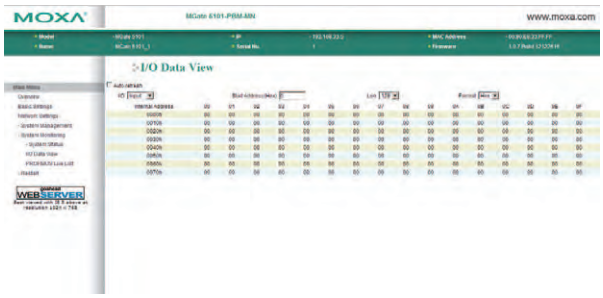
Products: MGate 5101-PBM-MN Series, MGate 5102-PBM-PN Series



Easy to Maintain, with Built-in Monitoring and Diagnostics

Web-based Monitoring Tool

Moxa's industrial Ethernet gateways feature a web-based monitoring tool that supports data import/export and log recording capabilities. The monitoring tool streamlines device configuration, maintenance, and troubleshooting, and supports encryption functions such as HTTPS and SSH to prevent unauthorized access. With this tool, users can reduce their cost since they won't need to purchase additional monitoring tools.



Real-Time Control of Fieldbus-to-Ethernet Networks

Real-time monitoring is critical for any industrial system, and Moxa's MGate Manager Windows utility is not only designed for easy configuration, but also for uninterrupted monitoring and troubleshooting of the connections between the fieldbus system and remote control system. MGate Manager logs events initiated by the gateway, and records all commands and responses that pass through the gateway, assisting users in determining the root cause of failures and identifying performance bottlenecks. The automatic relay output warning for the Ethernet link and power input status gives maintenance engineers an intelligent notification tool for quick troubleshooting and easy maintenance.

Reliable Performance, for Uninterrupted Operation

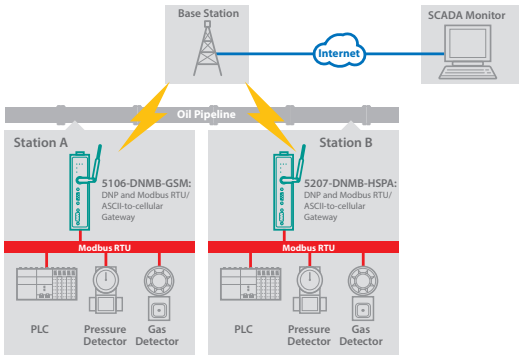
For mission-critical industrial applications, the failure of a single link can affect operational efficiency. Moxa's gateways are certified for use in hazardous environments (ATEX Zone 2, Class 1 Division 2), support a -40 to 75°C wide operating temperature (the highest operating temperature on the market; available with some models), and feature dual power inputs for connecting to a redundant power source to ensure reliable performance. In addition, Moxa gateways are recognized by several important organizations, such as PROFIBUS & PROFINET International (PI), Open DeviceNet Vendors Association (ODVA™), and the Modbus Organization (Modbus.org).

Applications

Oil Pipeline Monitoring

Modbus RTU/ASCII to Modbus TCP (cellular network)
DNP3 Serial to DNP3 IP (cellular network)

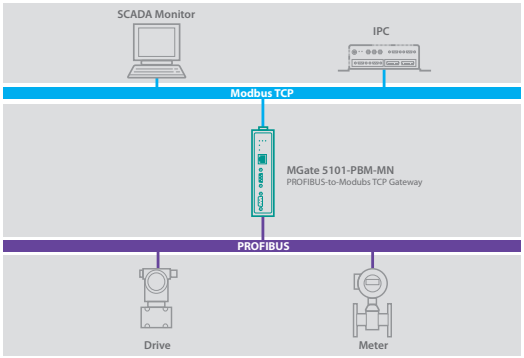
Pipeline networks can stretch for hundreds of miles. To decrease the risk of explosions and leakage, a reliable remote monitoring system that includes meters and PLCs to manage onsite operations is an absolute must. As a result, many systems now use a cellular network to transmit Modbus RTU data from field devices back to the SCADA Modbus TCP network. In these situations, a Modbus gateway that supports cellular transmissions and VPN tunneling is required to provide a reliable and secure connection.



Drilling Rig Control and Monitoring

PROFIBUS to Modbus TCP

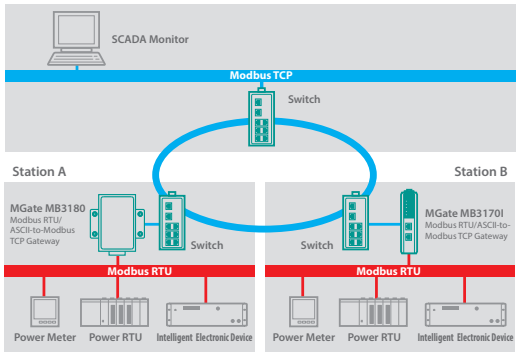
Drilling for oil and gas involves many risks, and even a tiny mistake could cause leaks or spills that result in serious accidents and contribute to environmental pollution. To prevent accidents and ensure accurate drive-to-drill operation, operators use industrial gateways to bridge Modbus TCP networks with PROFIBUS-based meters or drives for real-time remote control.



Monitoring a Small-Scale Power Generation System

Modbus RTU/ASCII to Modbus TCP

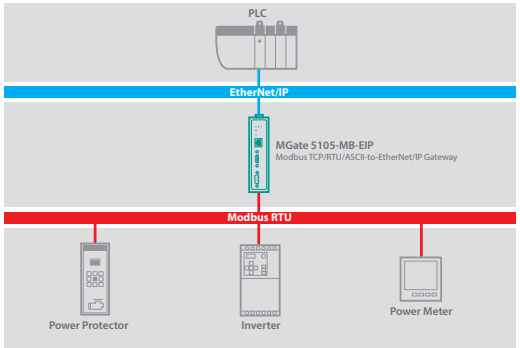
Industrial plants often have their own power generation systems to provide an uninterrupted power supply. To enable continuous monitoring, Modbus is commonly adopted as a communication protocol to transmit large volumes of Modbus RTU monitoring information from power RTUs, Intelligent Electronic Devices, and meters, via industrial gateways to the process control system running on a Modbus TCP network.



Electric Control Panel Monitoring

Modbus RTU/ASCII to EtherNet/IP

EtherNet/IP is a communications protocol developed by Rockwell Automation, and is widely used in many large-scale power systems for remote monitoring to ensure reliable performance and energy control. Although ControlLogix PLCs support Modbus modules for connecting a Modbus RTU to EtherNet/IP, it may be too expensive to modify the PLC code and a convenient rack slot may not be available. For this reason, gateways have become a popular way to achieve Modbus communication requirements.



MGate™ MB3180/3280/3480

1, 2, and 4-port standard serial-to-Ethernet Modbus gateways

- Convert between Modbus TCP and Modbus RTU/ASCII
- 1 Ethernet port and 1, 2, or 4 RS-232/422/485 ports
- 16 simultaneous TCP masters with up to 32 simultaneous requests per master
- Easy hardware setup and configuration

Overview

The MB3180, MB3280, and MB3480 are standard Modbus gateways that convert between Modbus TCP and Modbus RTU/ASCII protocols. Up to 16 simultaneous Modbus TCP masters are supported, with up to 31 RTU/ASCII slaves per serial port. For RTU/ASCII masters, up to 32 TCP slaves are supported.

Standard Modbus Network Integration

The three standard MGate™ models (MB3180, MB3280, and MB3480) are designed for easy integration of Modbus TCP and RTU/ASCII networks. With these models, Modbus serial slave devices can be seamlessly incorporated into an existing Modbus TCP network, and Modbus TCP slaves can be made accessible to serial masters. The MB3180, MB3280, and MB3480 offer features that make network integration easy, customizable, and compatible with almost any Modbus network.

High Density, Cost-effective Gateways

The MGate™ MB3000 gateways can effectively connect a high density of Modbus nodes to the same network. The MB3280 can manage up to 62 serial slave nodes, and the MB3480 can manage up to 124 serial slave nodes. Each RS-232/422/485 serial port can be configured individually for Modbus RTU or Modbus ASCII operation and for different baudrates, allowing both types of networks to be integrated with Modbus TCP through one Modbus gateway.

Specifications

Ethernet Interface

Protocol: Modbus TCP
Number of Ports: 1
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

Serial Interface

Protocol: Modbus RTU/ASCII Slave/Master
Number of Ports:
MB3180: 1
MB3280: 2
MB3480: 4
Serial Standards: RS-232/422/485, software selectable
Connectors: DB9 male
ESD Protection: 15 kV for all signals
RS-485 Data Direction Control: ADDC® (automatic data direction control)

Serial Communication Parameters

Data Bits: 7, 8
Stop Bits: 1, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR (RS-232 only)
Baudrate: 50 bps to 921.6 kbps

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Software

Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Multi-master and Multi-drop:
Master mode: 32 TCP slaves
Slave mode: 16 TCP masters (request queue 32-deep for each master)
Support: Smart Routing, MXview, SNMP v1 (read only)

Physical Characteristics

Housing: Metal, IP30 protection
Weight:
MGate MB3180: 340 g
MGate MB3280: 360 g
MGate MB3480: 740 g

Dimensions:
Without ears:
MB3180: 22 x 52 x 80 mm (0.87 x 2.05 x 3.15 in)
MB3280: 22 x 77 x 111 mm (0.87 x 3.03 x 4.37 in)
MB3480: 35.5 x 102.7 x 157.2 mm (1.40 x 4.04 x 6.19 in)
With ears:
MB3180: 22 x 75 x 80 mm (0.87 x 2.95 x 3.15 in)
MB3280: 22 x 100 x 111 mm (0.87 x 3.94 x 4.37 in)
MB3480: 35.5 x 102.7 x 181.3 mm (1.40 x 4.04 x 7.14 in)

Environmental Limits

Operating Temperature: 0 to 55°C (32 to 131°F)
Storage Temperature: -20 to 70°C (-4 to 158°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage: 12 to 48 VDC
Power Connector:
MGate MB3180: Power jack
MGate MB3280/3480: Power jack and terminal block
Power Consumption:
MGate M3180: 200 mA (max.)
MGate M3280: 250 mA (max.)
MGate M3480: 385 mA (max.)

Standards and Certifications

Safety: UL 60950-1, EN 60950-1
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 2,
EN 61000-4-3 (RS) Level 2,
EN 61000-4-4 (EFT) Level 2,
EN 61000-4-5 (Surge) Level 2,
EN 61000-4-6 (CS) Level 2,
EN 61000-4-8 (PFMF) Level 1,
EN 61000-4-11

Reliability

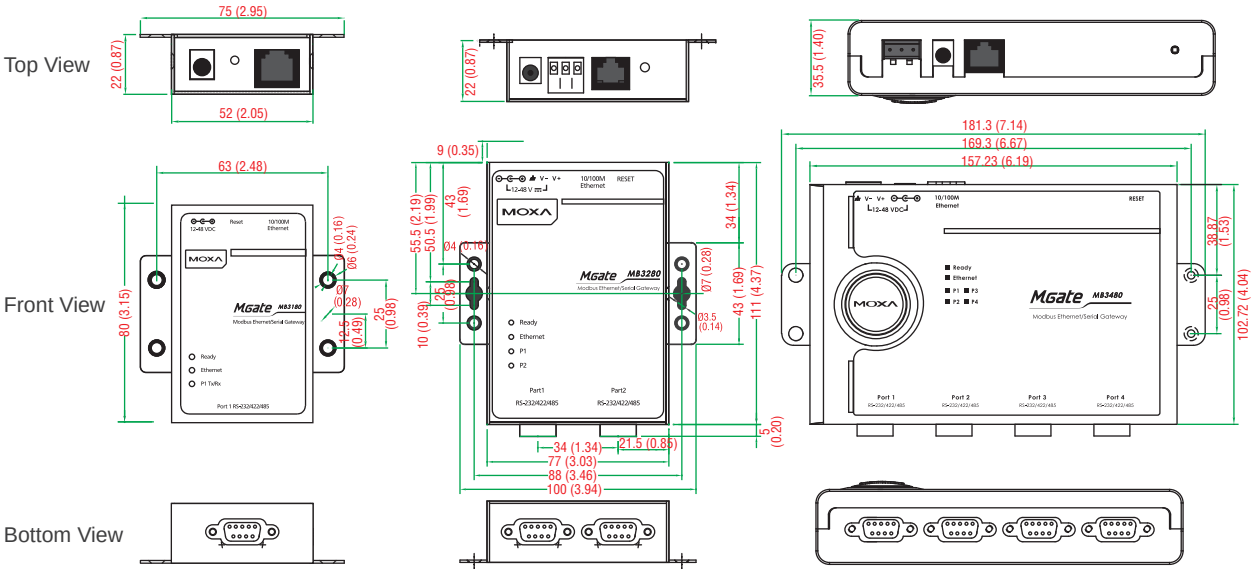
MTBF (mean time between failures):
MGate M3180: 628,376 hrs
MGate M3280: 503,029 hrs
MGate M3480: 295,812 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

MGate MB3180: 1-port standard Modbus gateway
MGate MB3280: 2-port standard Modbus gateway
MGate MB3480: 4-port standard Modbus gateway

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DK-35A: Mounting kit for 35-mm DIN-rail

DK-35A

Package Checklist

- 1 MGate MB3180 or MB3280 or MB3480 modbus gateway
- Power Adaptor
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MGate™ MB3170/3270

1 and 2-port advanced serial-to-Ethernet Modbus gateways

- Configuration is exceptionally easy
- Slave mode supports 16 TCP masters and up to 31 or 62 serial slaves at the same time
- Master mode supports 32 TCP slaves at the same time
- Emergency request tunnels ensure QoS control
- Serial redirector function provided
- Embedded Modbus protocol analyzer
- Redundant dual DC power inputs
- Built-in Ethernet cascading for easy wiring

ProCOM

IEC IECEx Ex cULus LISTED DNV CE FC

Overview

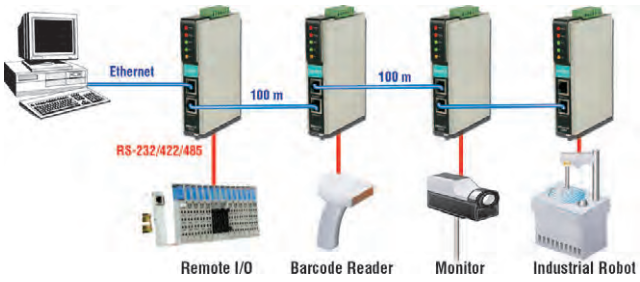
The MB3170 and MB3270 are advanced Modbus gateways that provide maximum flexibility for integrating industrial Modbus networks of all types and sizes. They are designed to integrate Modbus TCP, ASCII, and RTU devices in almost any master and slave combination, including serial master to serial slave, or simultaneous serial and Ethernet masters. A special priority control feature allows urgent commands to obtain an immediate response. All models are ruggedly constructed, are DIN-rail mountable, and offer built-in optical isolation for serial signals as an option.

Integrate TCP Masters without Altering the Modbus RTU/ASCII Network or Software

The MB3270 can integrate Modbus TCP with Modbus RTU/ASCII, without modifying the existing Modbus RTU/ASCII architecture or software. With the serial redirector function, a serial master can maintain direct access to serial slave devices through a specially mapped serial port. This allows the serial and TCP masters to access serial slaves simultaneously.

Cascade Ethernet Ports for Easy Wiring

Advanced models of the MGate™ MB3000 series have two Ethernet ports to make network wiring easier. Dual Ethernet ports allow users to string multiple Modbus gateways together using standard RJ45 Ethernet cables, eliminating the need for a separate Ethernet switch.



Redundant Power Inputs

Advanced models of the MB3000 series have dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources, so that continuous operation is provided even if one power source fails. The higher level of reliability makes these advanced Modbus gateways ideal for demanding industrial applications.

Warning by Relay Output

A relay output is provided for the Ethernet link and power input status. The relay output gives maintenance engineers an additional tool for troubleshooting and maintenance.

Priority Control for Urgent Commands (Patented)

As Modbus networks increase in size and complexity, the lag time between commands and responses becomes a major concern. Advanced models of the MB3000 series provide a priority control function for urgent commands, allowing users to force certain commands to get an immediate response. Depending on your system's requirements, different methods are available to define which commands receive priority.

Patent Numbers: (US/TW)
US7,743,192 B2 / I332618
US7,725,635 B2 / I321007

Specifications

Ethernet Interface
Protocol: Modbus TCP
Number of Ports: 2 (1 IP, Ethernet cascade)
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

Serial Interface
Protocol: Modbus RTU/ASCII Slave/Master
Number of Ports:
MB3170/3170I: 1
MB3270/3270I: 2
Serial Standards: RS-232/422/485, software selectable
Connectors:
MB3170/3170I: DB9 male for RS-232, terminal block for RS-422/485
MB3270/3270I: DB9 male x 2
ESD Protection: 15 kV for all signals
RS-485 Data Direction Control: ADDC® (automatic data direction control)
Pull High/Low Resistor for RS-485: 1 kΩ, 150 kΩ
Terminator for RS-485: 120 Ω

Serial Communication Parameters
Data Bits: 7, 8
Stop Bits: 1, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR (RS-232 only)
Baudrate: 50 bps to 921.6 kbps

Serial Signals
RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Software
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
Utility: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Multi-master and Multi-drop:
Master mode: 32 TCP slaves
Slave mode: 16 TCP masters (request queue 32-deep for each master)
Support: Smart Routing, Serial Redirection, ProCOM, Priority Control, MXview, SNMP v1 (read only)

Physical Characteristics
Housing: Plastic
Weight:
MGate MB3170: 360 g
MGate MB3270: 380 g
Dimensions:
Without ears: 29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)
With ears extended: 29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)

Environmental Limits
Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements
Input Voltage: 12 to 48 VDC
Power Connector: Terminal block
Power Consumption:
MGate MB3170: 435 mA (max.)
MGate MB3170I: 555 mA (max.)
MGate MB3270: 435 mA (max.)
MGate MB3270I: 510 mA (max.)
Relay Output:
1 digital relay output to alarm (normal close): Current carrying capacity 1 A @ 30 VDC

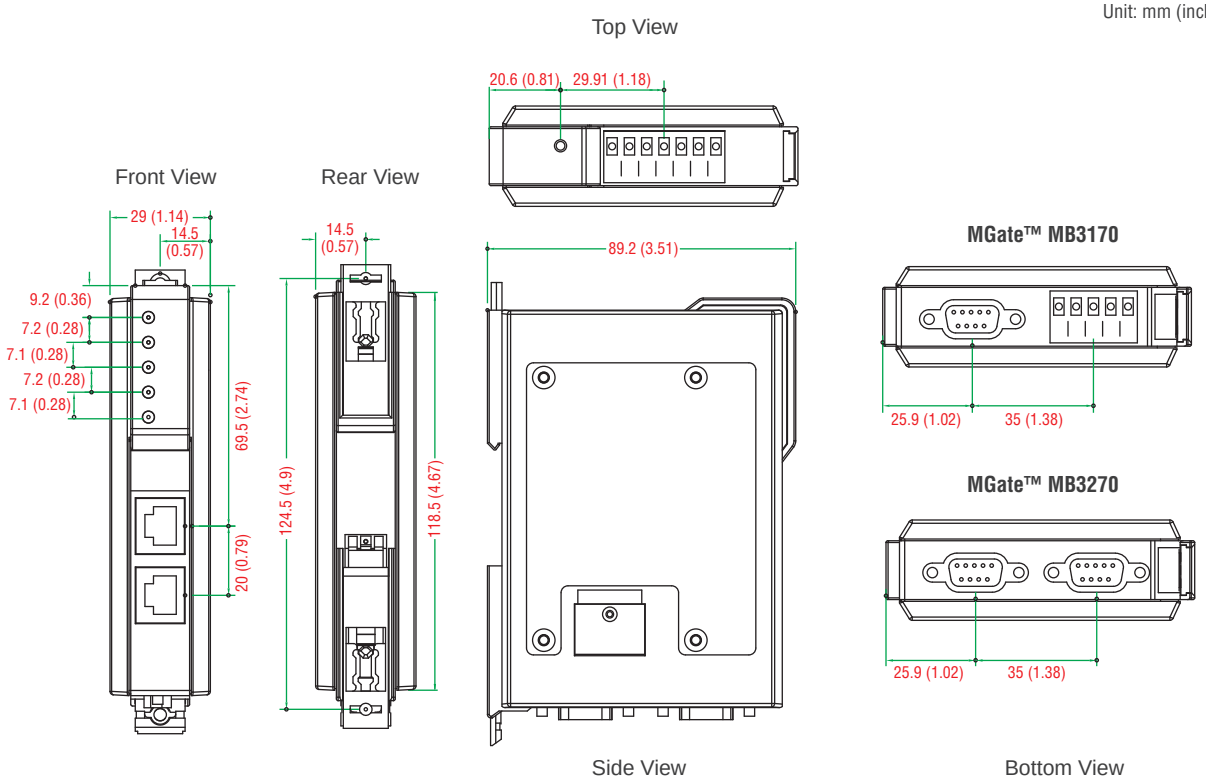
Standards and Certifications
Safety: UL 508, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D,
ATEX Zone 2 Ex nA IIC T3 Gc, IECEx (-IEX model only)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 1,
EN 61000-4-11
Marine: DNV
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability
MTBF (mean time between failures):
MGate MB3170: 210,794 hrs
MGate MB3270: 125,234 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

MGate MB3170: 1-port advanced Modbus gateway, 0 to 60°C operating temperature
MGate MB3170I: 1-port advanced Modbus gateway with 2 kV isolation, 0 to 60°C operating temperature
MGate MB3270: 2-port advanced Modbus gateway, 0 to 60°C operating temperature
MGate MB3270I: 2-port advanced Modbus gateway with 2 kV isolation, 0 to 60°C operating temperature
MGate MB3170-T: 1-port advanced Modbus gateway, -40 to 75°C operating temperature
MGate MB3170I-T: 1-port advanced Modbus gateway with 2 kV isolation, -40 to 75°C operating temperature
MGate MB3270-T: 2-port advanced Modbus gateway, -40 to 75°C operating temperature
MGate MB3270I-T: 2-port advanced Modbus gateway with 2 kV isolation, -40 to 75°C operating temperature
MGate MB3170-IEX: 1-port advanced Modbus gateway, 0 to 60°C operating temperature, IECEx certification
MGate MB3170I-IEX: 1-port advanced Modbus gateway with 2 kV isolation, 0 to 60°C operating temperature, IECEx certification
MGate MB3270-IEX: 2-port advanced Modbus gateway, 0 to 60°C operating temperature, IECEx certification
MGate MB3270I-IEX: 2-port advanced Modbus gateway with 2 kV isolation, 0 to 60°C operating temperature, IECEx certification
MGate MB3170-T-IEX: 1-port advanced Modbus gateway, -40 to 75°C operating temperature, IECEx certification
MGate MB3170I-T-IEX: 1-port advanced Modbus gateway with 2 kV isolation, -40 to 75°C operating temperature, IECEx certification
MGate MB3270-T-IEX: 2-port advanced Modbus gateway, -40 to 75°C operating temperature, IECEx certification
MGate MB3270I-T-IEX: 2-port advanced Modbus gateway with 2 kV isolation, -40 to 75°C operating temperature, IECEx certification

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch

Package Checklist

- 1 MGate MB3170 or MB3170I or MB3270 or MB3270I modbus gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MGate™ EIP3000 Series

1 and 2-port EtherNet/IP-to-DF1 gateways

- PCCC objects for Rockwell Automation networks supported
- Use ProCOM to implement control via COM port mapping
- 8 simultaneous EtherNet/IP client/server pairs with up to 16 queued requests
- Serial redirector keeps the original serial master and slave connection while connecting devices to the Ethernet
- EtherNet/IP and DF1 protocol analyzer for easy troubleshooting
- Redundant dual DC power inputs
- Built-in Ethernet cascading for easy wiring
- -40 to 75°C wide operating temperature models available

ProCOM

Overview

MGate™ EIP3000 gateways provide EtherNet/IP to DF1 protocol conversion for users who need to connect Allen Bradley PLCs to an EtherNet/IP network. With a number of innovative functions, the MGate™ series overcomes the difficulties of connecting between legacy serial devices and SCADA software. Both 1 and 2-port gateways are available for use with different sized control networks.

Protocol Conversion between DF1 and EtherNet/IP

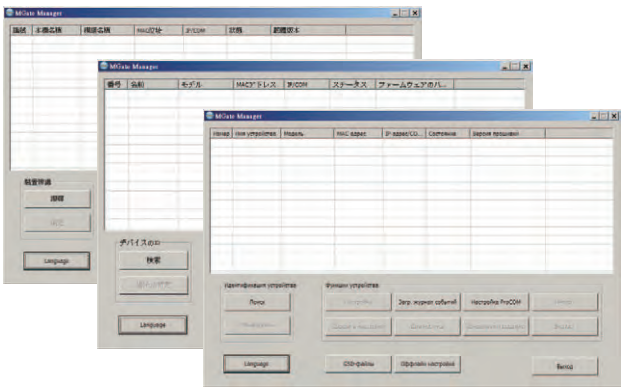
By supporting PCCC objects on CIP, the MGate™ EIP3000 can communicate seamlessly with SCADA software such as RSLinx. For users who develop control software based on EtherNet/IP, MGate EIP3000 offers the standard interface for connection.

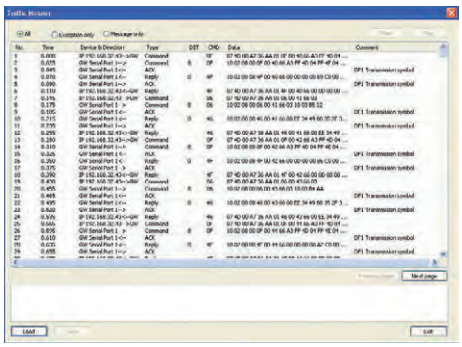
Support for Multiple EtherNet/IP Connections

MGate™ EIP3000 gateways support up to 16 EtherNet/IP clients and servers simultaneously. Each client can send up to 16 requests at a time, and the multiple connection capability can help establish redundancy for more complex control systems.

Windows Utility for Easy Setup and Traffic Monitoring

Moxa provides a user-friendly Windows utility with multi-language support. The utility supports a traffic monitoring function for EtherNet/IP and DF1 protocols, and not only logs events initiated by the gateway, but also records all commands and responses that pass through the gateway. The utility helps users determine the root cause of failures and performance bottlenecks.





Serial Redirector Function Maintains Original Master/Slave Connections

The serial redirector function allows the commands of a serial master (command initiator) to be redirected to the serial slave (command executor) on another port. In addition, a serial master can operate simultaneously with EtherNet/IP masters without changing the DF1 architecture or software. With the serial redirector function, MGate™ EIP3000 gateways can establish redundant control of legacy slave devices that were originally designed to be controlled by a single serial master.

ProCOM Implements Control via COM Port Mapping

Each MGate™ EIP3000 gateway supports virtual serial ports for the remote PC. You can connect to the MGate™ EIP3000 through the COM port by using Moxa's Real COM driver, with the actual physical connection over the Ethernet. The gateway supports up to 4 virtual COM port connections and offers greater flexibility when designing redundant control systems.

Pull high/low Resistors and Terminator Selection

When using termination resistors to prevent serial signal reflection, it is important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, the EIP3000 has DIP switches on the bottom panel for setting the termination and pull high/low resistor values.

Built-in Isolation

Complex device networks that incorporate high amperage devices could be subject to electrical signal distortion from electrical discharges, magnetic noise, or common mode transients. MGate™ series products solve this problem by using built-in optical isolation.

Specifications

Ethernet Interface

Protocol: CIP (PCCC) on EtherNet/IP
Number of Ports:
EIP3170/3170I: 2 (1 IP, Ethernet cascade)
EIP3270/3270I: 2 (2 IPs)
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

Serial Interface

Protocol: DF1 Full-duplex
Number of Ports:
EIP3170/3170I: 1
EIP3270/3270I: 2
Serial Standards: RS-232/422, software selectable
Connectors:
EIP3170/3170I: DB9 male for RS-232, terminal block for RS-422
EIP3270/3270I: DB9 male x 2
ESD Protection: 15 kV for all signals

Serial Communication Parameters

Data Bits: 8
Stop Bits: 1, 2
Parity: None, Even, Odd
Flow Control: RTS/CTS, DTR/DSR (RS-232 only)
Baudrate: 1200 bps to 921.6 kbps

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND

Software

Utility: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Configuration Options: Serial Console, Telnet Console, Windows Utility
Support: Smart Routing, Serial Redirection, ProCOM, MXview, SNMP v1 (read only)

Physical Characteristics

Housing: Plastic
Weight:
MGate EIP3170: 360 g
MGate EIP3270: 380 g
Dimensions:
Without ears: 29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)
With ears extended: 29 x 89.2 x 124.5 mm (1.14 x 3.51 x 4.90 in)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage: 12 to 48 VDC
Power Connector: Terminal block
Power Consumption:
MGate M3170: 435 mA (max.)
MGate M3170I: 555 mA (max.)
MGate M3270: 435 mA (max.)
MGate M3270I: 510 mA (max.)

Standards and Certifications

Safety: UL 508, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D,
ATEX Zone 2 Ex nA IIC T3 Gc, IECEx (-IEX model only)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 1,
EN 61000-4-11
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability

MTBF (mean time between failures):
MGate EIP3170: 210,794 hrs
MGate EIP3270: 125,234 hrs

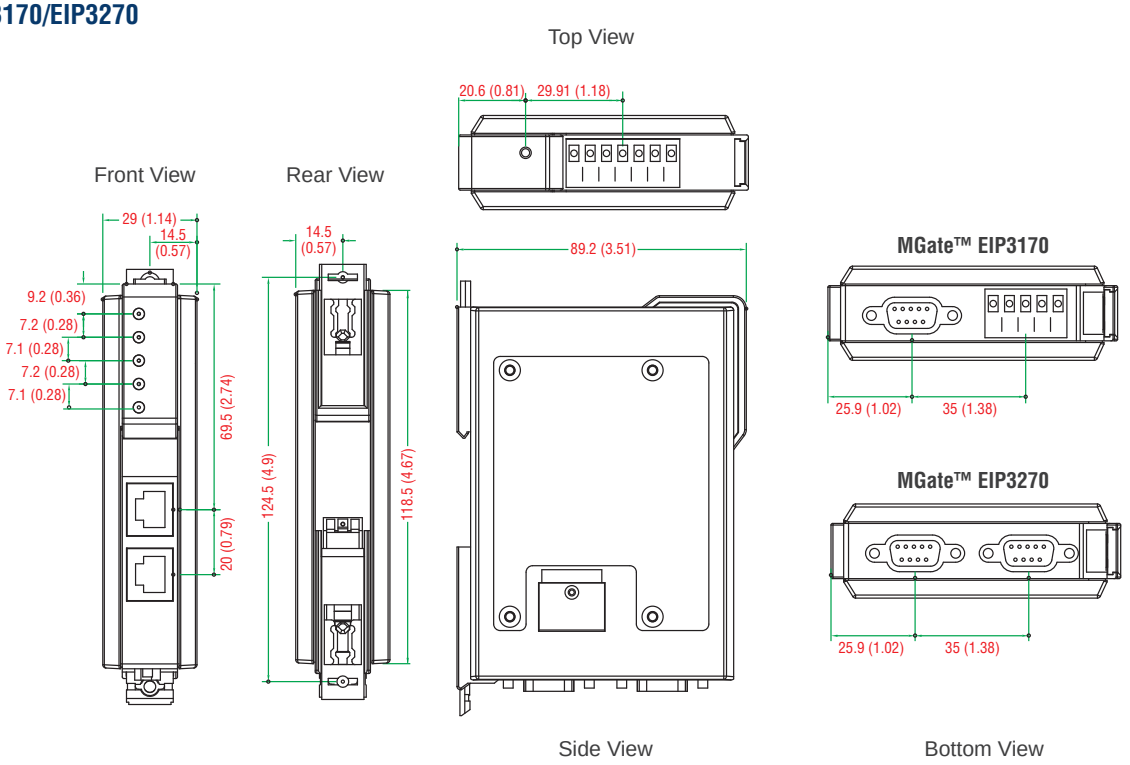
Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

EIP3170/EIP3270



Ordering Information

Available Models

MGate EIP3170: 1-port EtherNet/IP-to-DF1 gateway, 0 to 60°C operating temperature
MGate EIP3170I: 1-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, 0 to 60°C operating temperature
MGate EIP3270: 2-port EtherNet/IP-to-DF1 gateway, 0 to 60°C operating temperature
MGate EIP3270I: 2-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, 0 to 60°C operating temperature
MGate EIP3170-T: 1-port EtherNet/IP-to-DF1 gateway, -40 to 75°C operating temperature
MGate EIP3170I-T: 1-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, -40 to 75°C operating temperature
MGate EIP3270-T: 2-port EtherNet/IP-to-DF1 gateway, -40 to 75°C operating temperature
MGate EIP3170-IEX: 1-port EtherNet/IP-to-DF1 gateway, 0 to 60°C operating temperature, IECEx certification
MGate EIP3170I-IEX: 1-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, 0 to 60°C operating temperature, IECEx certification
MGate EIP3270-IEX: 2-port EtherNet/IP-to-DF1 gateway, 0 to 60°C operating temperature, IECEx certification
MGate EIP3270I-IEX: 2-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, 0 to 60°C operating temperature, IECEx certification
MGate EIP3170-T-IEX: 1-port EtherNet/IP-to-DF1 gateway, -40 to 75°C operating temperature, IECEx certification
MGate EIP3170I-T-IEX: 1-port EtherNet/IP-to-DF1 gateway with 2 kV isolation, -40 to 75°C operating temperature, IECEx certification
MGate EIP3270-T-IEX: 2-port EtherNet/IP-to-DF1 gateway, -40 to 75°C operating temperature, IECEx certification

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch

Package Checklist

- 1 MGate EIP3170 or EIP3170I or EIP3270 or EIP3270I EtherNet/IP gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MGate™ 4101-MB-PBS Series

1-port Modbus RTU/ASCII-to-PROFIBUS slave gateways

- Protocol conversion between Modbus and PROFIBUS
- Windows utilities with innovative QuickLink function for automatic configuration within minutes
- Redundant dual DC power inputs and relay output supported
- Embedded data packet analyzer
- Powerful and visual diagnostic tool
- -40 to 75°C wide operating temperature models available

Overview

The MGate 4101-MB-PBS gateway provides a communication portal between PROFIBUS PLCs (e.g. Siemens S400 and S300 PLCs) and Modbus devices. With the QuickLink feature, I/O mapping can be accomplished within a matter of minutes. All models are protected with a rugged metallic casing, are DIN-rail mountable, and offer optional built-in optical isolation.

QuickLink and Windows Utilities for Easy Setup and Traffic Monitoring

The QuickLink windows utility uses a serial console port to connect to the MGate 4101-MB-PBS and makes configuration and operation as easy as possible. QuickLink can finish configuration in just few minutes by passively detecting Modbus requests with the AutoLearning function, and performing error-free I/O mapping with the AutoMapping feature. QuickLink drastically reduces Modbus-to-PROFIBUS integration time when compared to conventional I/O mapping, which can easily require days to complete. Additionally, embedded monitoring tools can maintain logs of Modbus communication packets and assist in troubleshooting.

Redundant Power Inputs

The MGate 4101-MB-PBS has dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources, so that continuous operation is provided even if one power source fails. The higher level of reliability makes these advanced Modbus-to-PROFIBUS gateways ideal for demanding industrial applications.

Warning by Relay Output

A relay output is provided for the power input status. The relay output gives maintenance engineers an additional tool for troubleshooting and maintenance.

Specifications

PROFIBUS Interface

Protocol: PROFIBUS DP-V0 Slave
Number of Ports: 1
Data Rate: 9600 bps to 12 Mbps
Connector: DB9 female
Isolation: 2 kV (built-in)
DIP Switch: For termination
Rotary Switch: PROFIBUS address 0-99 (address 100-125 supported through software configuration)

Modbus Interface

Protocol: Modbus RTU/ASCII Slave/Master
Number of Ports: 1
Serial Standards: RS-232/422/485, software selectable
Connectors: DB9 male
ESD Protection: 15 kV for all signals
RS-485 Data Direction Control: ADDC® (automatic data direction control)
Pull High/Low Resistor for RS-485: 1 kΩ, 150 kΩ
Terminator for RS-485: 120 Ω
Data Bits: 7, 8
Stop Bits: 1, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR (RS-232 only)
Baudrate: 50 bps to 921.6 kbps

Serial Signals
RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Software
Configuration Options: Serial Console, Windows Utility
Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Support: QuickLink, Paging

Physical Characteristics
Housing: Metal, IP30 protection
Weight: 500 g
Dimensions: 36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)

Environmental Limits
Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements
Input Voltage: 12 to 48 VDC
Power Connector: Terminal block

Power Consumption:
MGate 4101-MB-PBS: 340 mA @ 12 VDC, 130 mA @ 48 VDC
MGate 4101I-MB-PBS: 375 mA @ 12 VDC, 140 mA @ 48 VDC

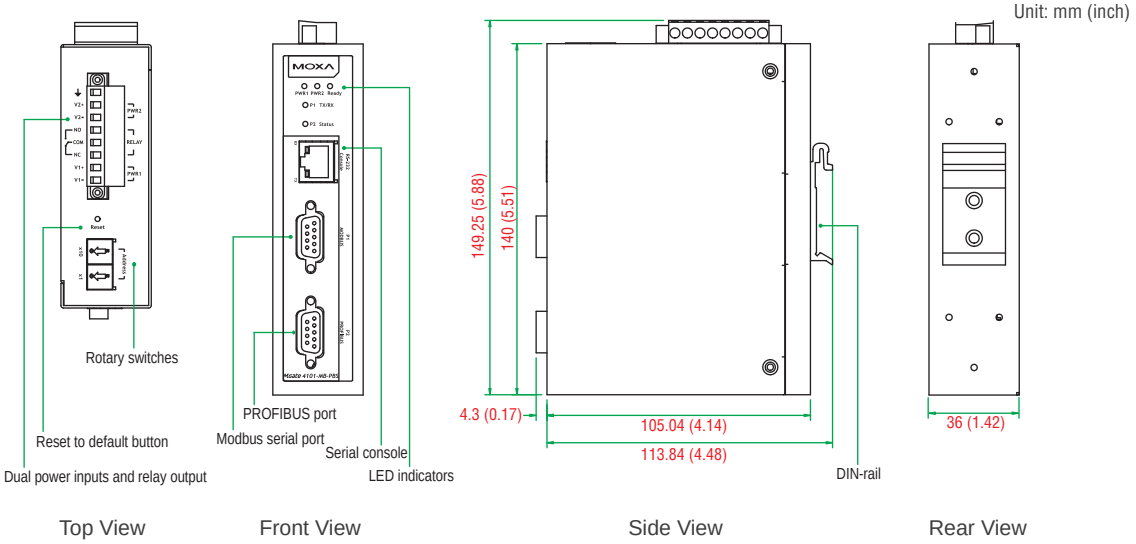
Standards and Certifications
Safety: UL 60950-1, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D (Pending),
ATEX Zone 2 Ex nA nC IIC T3 Gc (Pending),
IECEx (Pending)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 2,
EN 61000-4-4 (EFT) Level 3,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 2,
EN 61000-4-8 (PFMF) Level 1
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability
MTBF (mean time between failures): 513,139 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Top View | Front View | Side View | Rear View

Ordering Information

Available Models
MGate 4101-MB-PBS: 1-port Modbus-to-PROFIBUS slave gateway, 12-48 VDC, 0 to 60°C operating temperature
MGate 4101I-MB-PBS: 1-port Modbus-to-PROFIBUS slave gateway with 2 kV isolation, 12-48 VDC, 0 to 60°C operating temperature
MGate 4101-MB-PBS-T: 1-port Modbus-to-PROFIBUS slave gateway, 12-48 VDC, -40 to 75°C operating temperature
MGate 4101I-MB-PBS-T: 1-port Modbus-to-PROFIBUS slave gateway with 2 kV isolation, 12-48 VDC, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
WK-36-02: Wall mounting kit

Package Checklist
- 1 MGate 4101-MB-PBS or 4101I-MB-PBS Modbus-to-PROFIBUS slave gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card
- RJ45 to DB9 cable (for console use)

MGate™ 5101-PBM-MN Series

1-port PROFIBUS-to-Modbus TCP gateways

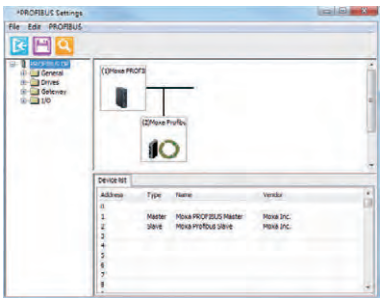
- Protocol conversion between PROFIBUS and Modbus TCP
- Automatic scan of PROFIBUS devices for easy configuration
- Redundant dual DC power inputs and relay output supported
- Embedded data packet analyzer and diagnostic tool
- Web-based GUI for I/O data visualization
- -40 to 75°C wide operating temperature models available

Overview

The MGate 5101-PBM-MN gateway provides a communication portal between PROFIBUS devices (e.g. PROFIBUS drives or instruments) and Modbus TCP hosts. All models are protected with a rugged metallic casing, DIN-rail mountable, and offer optional built-in optical isolation. The PROFIBUS and Ethernet status LED indicators are provided for easy maintenance. The rugged design is suitable for industrial applications such as oil/gas, power, process automation, and factory automation.

Windows Utility for Easy Configuration and Traffic Monitoring

The MGate Manager utility provides a user friendly interface to make configuration and operation as easy as possible. Moxa's innovative AutoScan function can automatically detect all connected PROFIBUS slave devices and their available I/O modules to quickly complete gateway configuration, after which an easy to read data mapping table is created to assist in the configuration of Modbus TCP master (e.g. SCADA, PLC) settings. In addition, users can configure import/export maintenance functions, and use embedded monitoring tools to maintain Modbus communication packets logs, which can used for troubleshooting.



Various Maintenance Functions

The MGate 5101-PBM-MN provides Web console and Telnet console for remote maintenance. Each also supports encryption commutation functions such as HTTPS and SSH for preventing unauthorized access. The log functions are provided in firmware such as connection event of Modbus or PROFIBUS for maintenance. Users can monitor each I/O data and review the log through the web console remotely. A relay output alarm is provided for the power input status. It gives maintenance engineers an additional tool for troubleshooting and maintenance.

Redundant Power Inputs

The MGate 5101-PBM-MN has dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources to provide uninterrupted operation even if one power source fails. The higher level of reliability makes these advanced PROFIBUS master to Modbus TCP gateways ideal for demanding industrial applications.

Specifications

Ethernet Interface

Number of Ports: 1
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

Modbus TCP
• Operation Modes: Modbus TCP Slave/Master

PROFIBUS Interface

Protocol: PROFIBUS DP-V1 Master
Number of Ports: 1

Data Rate: 9600 bps to 12 Mbps
Connector: DB9 female
Isolation: 2 kV (built-in)

Serial Signals (Serial Console)

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

Software

Configuration Options: Serial Console, Windows Utility, Web Console (HTTP/HTTPS), Telnet/SSH Console
Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Support: AutoScan, MXview, SNMP (v1, v2, v3), Private MIB

Physical Characteristics

Housing: Metal, IP30 protection
Weight: 500 g
Dimensions: 36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage: 12 to 48 VDC
Power Connector: Terminal block
Power Consumption: 365 mA @ 12 VDC

Standards and Certifications

Safety: UL 60950-1, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D (Pending),
ATEX Zone 2 Ex nA nC IIC T3 Gc (Pending),
IECEx (Pending)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 2,
EN 61000-4-4 (EFT) Level 3,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 1
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability

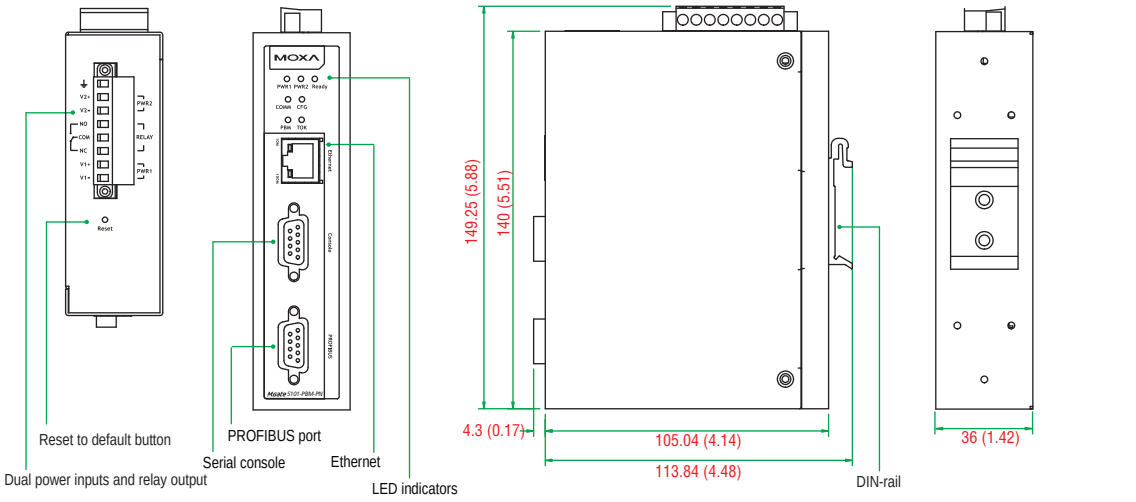
MTBF (mean time between failures): 540,026 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

MGate 5101-PBM-MN: 1-port PROFIBUS master to Modbus TCP gateway, 12-48 VDC, 0 to 60°C operating temperature
MGate 5101-PBM-MN-T: 1-port PROFIBUS master to Modbus TCP gateway, 12-48 VDC, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC / 176 to 264 VAC input by switch
WK-36-02: Wall mounting kit

Package Checklist

- 1 MGate 5101-PBM-MN PROFIBUS master to Modbus TCP gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MGate™ 5102-PBM-PN Series

1-port PROFIBUS-to-PROFINET gateways

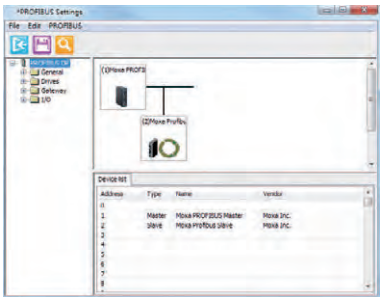
- Protocol conversion between PROFIBUS and PROFINET
- Automatic scan of PROFIBUS devices, and easy configuration
- microSD card for configuration backup
- Built-in Ethernet cascading for easy wiring
- Redundant dual DC power inputs and relay output supported
- Embedded I/O monitoring and diagnostic tools
- Web-based GUI for I/O data visualization
- -40 to 75°C wide operating temperature models available

Overview

The MGate 5102-PBM-PN gateway provides a communication portal between PROFIBUS devices (e.g., PROFIBUS PLC or drive) and the PROFINET host. All models are protected with a rugged metallic casing, are DIN-rail mountable, and offer optional built-in optical isolation. The PROFIBUS and Ethernet status LED indicators are provided for easy maintenance. The rugged design is suitable for industrial applications such as oil & gas, power, process automation, and factory automation.

Easy Setup Tools

Both the Windows MGate Manager utility and web console support the AutoScan function, which makes configuration and operation easy. AutoScan automatically detects all connected PROFIBUS slave devices and their available I/O modules, allowing you to configure your gateways very quickly, and a data mapping table is provided. Furthermore, one click is all that's needed to export all PROFIBUS I/O modules to a GSDML file to assist in the configuration of the PROFINET controller (e.g., a Siemens PLC).



Various Maintenance Functions

The MGate 5102-PBM-PN provides a web console and Telnet console for remote maintenance, with both consles supporting encryption commutation functions such as HTTPS and SSH to prevent unauthorized access. The status and changes in I/O data of all PROFIBUS slaves can be monitored remotely via the web console, and users can also review the log from the web console to see which system events have occurred. A relay output alarm is provided for the power input and Ethernet cable status. These functions make it easy for maintenance engineers to troubleshoot and maintain devices.

Redundant Power Inputs

The MGate 5102-PBM-PN has dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources to provide uninterrupted operation even if one power source fails. The higher level of reliability makes these advanced PROFIBUS master to PROFINET gateways ideal for demanding industrial applications.

Specifications

Ethernet Interface

Protocol: PROFINET RT
Number of Ports: 2 (1 IP, Ethernet cascade)
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

PROFIBUS Interface

Protocol: PROFIBUS DP-V1 Master
Number of Ports: 1
Data Rate: 9600 bps to 12 Mbps
Connector: DB9 female
Isolation: 2 kV (built-in)

Serial Signals (Serial Console)
Connector: 8-pin RJ45
RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

Software
Configuration Options: Windows Utility, Serial Console, Web Console (HTTP/HTTPS), Telnet/SSH Console
Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Support: AutoScan, MXview, SNMP (v1, v2, v3), Private MIB

Physical Characteristics
Housing: Metal, IP30 protection
Weight: 500 g
Dimensions: 36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)
Sorage Card Slot: 1 microSD (SDHC) card slot supports up to 32 GB

Environmental Limits
Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements
Input Voltage: 12 to 48 VDC
Power Connector: Terminal block
Power Consumption: 430 mA @ 12 VDC

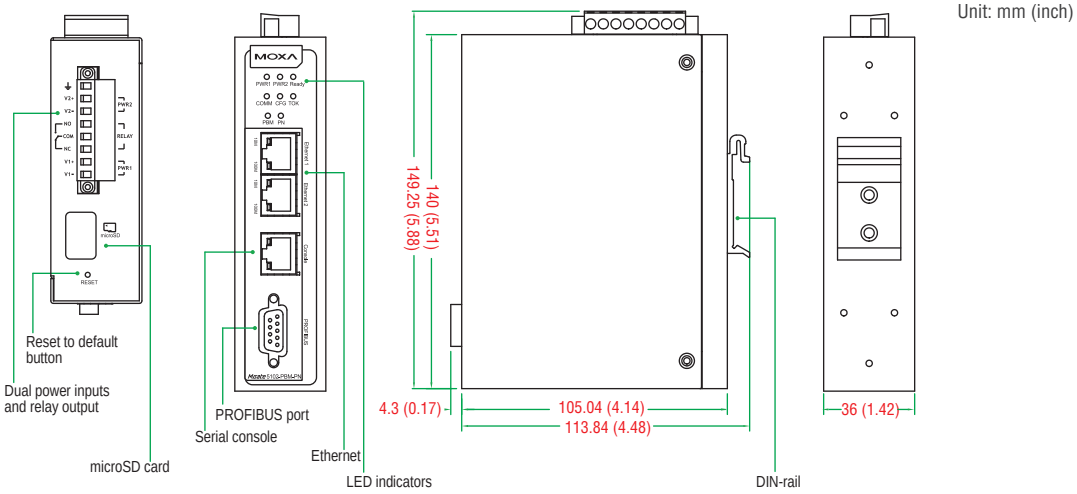
Standards and Certifications
Safety: UL 508, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D,
ATEX Zone 2 Ex nA nC IIC T3 Gc,
IECEx (Pending)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 4,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability
MTBF (mean time between failures): 980,417 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models
MGate 5102-PBM-PN: 1-port PROFIBUS-to-PROFINET gateway, 12-48 VDC, 0 to 60°C operating temperature
MGate 5102-PBM-PN-T: 1-port PROFIBUS-to-PROFINET gateway, 12-48 VDC, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)
MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
WK-36-02: Wall mounting kit

Package Checklist
- 1 MGate 5102-PBM-PN PROFIBUS-to-PROFINET gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MGate™ 5105-MB-EIP Series

1-port Modbus RTU/ASCII/TCP-to-EtherNet/IP gateways

- Support for both EtherNet/IP adapter and scanner
- Effortless configuration via web or Windows utility
- Complete packet analysis and diagnosis information for maintenance
- Easy I/O data maintenance via web interface
- microSD card for configuration and system log backup
- -40 to 75°C wide operating temperature models available
- Modbus port with 2 kV built-in isolation protection
- Built-in Ethernet cascading for easy wiring

Overview

The MGate 5105-MB-EIP is an industrial Ethernet gateway for Modbus RTU/ASCII/TCP and EtherNet/IP network communication. To integrate existing Modbus devices onto an EtherNet/IP network, use the MGate 5105-MB-EIP as a Modbus master or slave to collect data and exchange data with EtherNet/IP devices. The latest exchange data will be stored in the gateway as well. The gateway converts stored Modbus data into EtherNet/IP packets so the EtherNet/IP scanner can control or monitor Modbus devices.

Configuration Backup via microSD Card

The MGate 5105-MB-EIP is equipped with a microSD card slot. A microSD card can be used to back up both the system configuration and system log, and can be used to conveniently copy the same configuration to several MGate 5105-MP-EIP units. The configuration file stored in the microSD card will be copied to the MGate itself when the system is rebooted.

Effortless Configuration and Troubleshooting via Web Console

The MGate 5105-MB-EIP also provides a web console to make configuration easy without having to install an extra utility. Simply log in as an administrator to access all settings, or as a general user with read-only permission. Besides configuring basic protocol settings, you can use the web console to monitor I/O data values and transfers. In particular, I/O Data Mapping shows data addresses for both protocols in the gateway's memory and I/O Data View allows you to track data values for online nodes. Moreover, diagnostics and communication analysis for each protocol can also provide helpful information for troubleshooting.

Redundant Power Inputs

The MGate 5105-MB-EIP has dual power inputs for greater reliability. The power inputs allow simultaneous connections to two live DC power sources, so that continuous operation is provided even if one power source fails. The higher level of reliability makes these advanced Modbus-to-EtherNet/IP gateways ideal for demanding industrial applications.

Specifications

Ethernet Interface

Protocol: EtherNet/IP, Modbus TCP
Number of Ports: 2 (1 IP, Ethernet cascade)
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)
EtherNet/IP

- Class: Adapter, Scanner
- CIP Objects Supported: Identity, Message Router, Assembly, Connection Manager, TCP/IP interface, Ethernet link, Port
- Max. Number of Connections:
  MGate as Adapter: 16 connections for read-only, 1 connection for read/write
  MGate as Scanner: 100 connections
- Max. Total I/O Data Size:
  Input: 2048 bytes (496 bytes per connection)
  Output: 2048 bytes (496 bytes per connection)

Modbus

- Functions Supported: 1, 2, 3, 4, 5, 6, 15, 16, 23
- Max. Number of Commands: 100
- Max. Number of Connections:
  MGate as Modbus TCP Master: 32 connections
  MGate as Modbus TCP Slave: 16 connections
- Max. Total I/O Data Size:
  Input: 2048 bytes
  Output: 2048 bytes

Serial Interface

Protocol: Modbus RTU/ASCII
Number of Ports: 1
Serial Standards: RS-232/422/485, software selectable
Connectors: DB9 male
Isolation: 2 kV (built-in)
RS-485 Data Direction Control: ADDC® (automatic data direction control)
Pull High/Low Resistor for RS-485: 1 kΩ, 150 kΩ
Terminator for RS-485: 120 Ω
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, RTS Toggle
Baudrate: 50 bps to 921.6 kbps

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Software

Operation Modes: EtherNet/IP Adaptor/Scanner, Modbus RTU/ASCII/TCP Master/Slave
Configuration Options: Web Console, Windows Utility, Serial Console
Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
Support: MXview, SNMP (v1, v2, v3), Private MIB

Physical Characteristics

Housing: Metal, IP30 protection
Weight: 507 g
Dimensions: 36 x 105 x 140 mm (1.42 x 4.14 x 5.51 in)
Storage Card Slot: 1 microSD (SDHC) card slot supports up to 32 GB

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage: 12 to 48 VDC
Power Connector: Terminal block
Power Consumption:
455 mA @ 12 VDC, 125 mA @ 48 VDC

Standards and Certifications

Safety: UL 508, EN 60950-1
Hazardous Location:
UL/cUL Class 1 Division 2 Groups A/B/C/D,
ATEX Zone 2 Ex nA nC IIC T3 Gc,
IECEx (Pending)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 4,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

Reliability

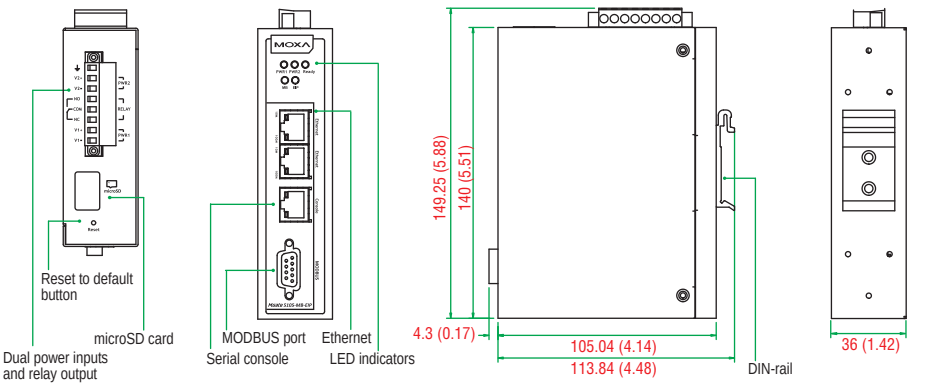
MTBF (mean time between failures): 513,139 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

MGate 5105-MB-EIP: 1-port Modbus-to-EtherNet/IP gateway, 0 to 60°C operating temperature
MGate 5105-MB-EIP-T: 1-port Modbus-to-EtherNet/IP gateway, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
WK-36-02: Wall mounting kit

Package Checklist

- 1 MGate 5105-MB-EIP Modbus-to-EtherNet/IP gateway
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card
- RJ45 to DB9 cable (for console use)

MGate™ 5106-DNMB-GSM/ 5207-DNMB-HSPA Series

Preliminary

1 and 2-port Modbus and DNP3 to cellular VPN gateways

- Retrieve Modbus/DNP3 serial data through cellular networks
- Dual SIM card slots for communication redundancy
- VPN tunnel function to secure data transmission
- Advanced power management to meet restricted outdoor environment requirements
- microSD card for configuration backup
- -40 to 75°C wide operating temperature models available
- 2 digital inputs and 2 digital outputs

c UL us LISTED CE FC

Overview

The MGate 5106-DNMB-GSM/5207-DNMB-HSPA series gateway provides a communication portal between remote Modbus/DNP3 devices and the central SCADA system through cellular networks. Each model has a rugged metallic casing, DIN-rail mounting, and optional built-in optical isolation. To secure data transmissions, the MGate 5106-DNMB-GSM/5207-DNMB-HSPA series gateway also provides a VPN tunnel function. Morever, the rugged design is particularly suited for industrial applications, such as oil and gas, power, process automation, and factory automation.

Advanced Power Management

The MGate 5106-DNMB-GSM/5207-DNMB-HSPA series gateway can be used to retrieve data from remote Modbus/DNP3 devices. However, supporting remote cellular communications also requires cellular gateways to consume additional power. For instance, cellular gateways deployed at remote sites may only have a battery to store solar power, resulting in a very limited power supply. So in order to conserve as much power as possible, the MGate 5106-DNMB-GSM/5207-DNMB-HSPA series gateway can automatically turn off unused components and run on very low power if there is no cellular transmission in progress. This advanced power management system makes the MGate 5106-DNMB-GSM/5207-DNMB-HSPA ideal for remote device access.

Robust Maintenance Functions

The MGate 5106-DNMB-GSM/5207-DNMB-HSPA series gateway can be easily configured by web console or Telnet console for remote maintenance. Each model also supports encryption commutation, such as HTTPS and SSH, to prevent security issues. In addition, log functions, such as Modbus/DNP3 and cellular connection events, are provided in the firmware to make maintenance easier. Moreover, users can remotely review log data through the web console when connection is lost.

Specifications

Ethernet Interface

Protocol: Modbus TCP, DNP3
Number of Ports:
1 for MGate 5106-DNMB-GSM,
2 (1 IP, Ethernet cascade) for MGate 5207-DNMB-HSPA
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 8-pin RJ45
Magnetic Isolation Protection: 1.5 kV (built-in)

Serial Interface

Protocol: Modbus RTU/ASCII Master/Slave, DNP3 serial
Number of Ports:
1 for MGate 5106-DNMB-GSM,
2 for MGate 5207-DNMB-HSPA
Serial Standards: RS-232/422/485, software selectable
Connectors: DB9 male

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, RTS Toggle
Baudrate: 50 to 921.6 Kbps

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Wireless Network

MGate 5106-DNMB-GSM: 2.5 G
GSM/GPRS: 850/900/1800/1900 MHz
Class: GPRS 10

MGate 5207-DNMB-HSPA: 3.75 G
GSM/GPRS/EDGE: 850/900/1800/1900 MHz,
UMTS/HSPA: 850/900/1700/1900/2100 MHz,
AWS: 1700/2100 MHz
Class: GSM: 4 (850/900), 1 (1800/1900), EDGE: E2, WCDMA: 3
Number of SIM Card Slots:
1 for MGate 5106-DNMB-GSM,
2 for MGate 5207-DNMB-HSPA
Number of Antennas:
1 for MGate 5106-DNMB-GSM,
2 for MGate 5207-DNMB-HSPA

Digital Input/Output

Number of DI/DO:
1 DI and 1 DO for MGate 5106-DNMB-GSM
2 DI and 2 DO for MGate 5207-DNMB-HSPA
Connectors:
4-pin terminal block for MGate 5106-DNMB-GSM
6-pin terminal block for MGate 5207-DNMB-HSPA
Dry Contact Level:
Logic 0: Short to GND
Logic 1: Open
Wet Contact Level (COM to DI):
Logic 0: +10~30 VDC
Logic 1: 0~+3 VDC
Digital Output (Sink Type):
Driver Current: Max. 200 mA per channel
On-state voltage: Max. 30 VDC

Software

Security
• VPN: IPSec, PPTP, L2TP, Port Forwarding, IP Filter
• Access Controls: IP address and phone number block list
Configuration
• Protocols: UDP/TCP, SNTP, ICMP, DDNS, DHCP, PPP, DNS, HTTP/HTTPS, Telnet, SSH, SNMP, ARP
• Configuration Options: Web (HTTP/HTTPS) console, Telnet/SSH console, Windows utility
• Utilities: MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)
• Configuration Backup: microSD card (SDHC supported), import/export function supported for MGate 5207-DNMB-HSPA
• Support: MXview, SNMP (v1, v2, v3), Private MIB

Physical Characteristics

Housing: Metal, IP30 protection
Weight:
532 g for MGate 5106-DNMB-GSM,
620 g for MGate 5207-DNMB-HSPA
Dimensions: 45.8 x 134.8 x 105 mm (1.8 x 5.31 x 4.13 in)
Storage Card Slot: 1 microSD (SDHC) card slot supports up to 32 GB for MGate 5207-DNMB-HSPA

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m (795 hPa), higher altitudes on demand
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Power Requirements

Input Voltage: 9 to 60 VDC
Power Connector: Terminal block
Power Consumption: 397 mA @ 9 VDC, 70 mA @ 60 VDC
Power Saving Mode: 40 mA @ 9 VDC

Standards and Certifications

Safety: UL 508, EN 60950-1
Hazardous Location: Class 1 Division 2, ATEX Zone 2 (pending)
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD) Level 3,
EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 4,
EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3,
EN 61000-4-8 (PFMF) Level 3
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
Radio:
MGate 5106-DNMB-GSM: FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-7, EN 301511
MGate 5207-DNMB-HSPA: FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-24, EN 301908-1

Reliability

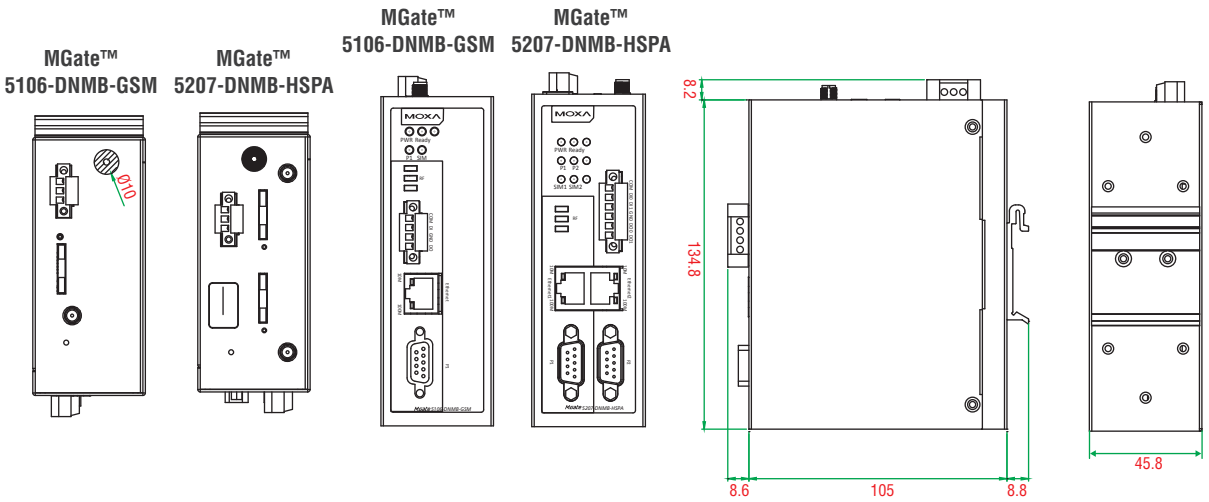
Alarm Functions: SMS, digital output, e-mail
Alert Tools: Built-in buzzer
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Top View | Front View | Side View | Rear View

Ordering Information

Available Models

MGate 5106-DNMB-GSM: 1-port Modbus/DNP3.0 to GSM cellular gateway, 0 to 60°C operating temperature
MGate 5106-DNMB-GSM-T: 1-port Modbus/DNP3.0 to GSM cellular gateway, -40 to 75°C operating temperature
MGate 5207-DNMB-HSPA: 1-port Modbus/DNP3.0 to HSPA cellular gateway, 0 to 60°C operating temperature
MGate 5207-DNMB-HSPA-T: 1-port Modbus/DNP3.0 to HSPA cellular gateway, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
DR-4524: 45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-75-24: 75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC input
DR-120-24: 120W/5A DIN-rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch
WK-51-01: Wall mounting kit
ANT-CQB-AHSM-00-3m: Quad-band GSM/GPRS, omni-directional, 0 dBi, 10 cm high
ANT-CQB-AHSM-03-3m: Quad-band GSM/GPRS, omni-directional, 3 dBi, 25 cm high
ANT-CQB-AHSM-05-3m: Quad-band GSM/GPRS, omni-directional, 5 dBi, 37 cm high
ANT-WCDMA-AHSM-04-2.5M: Five-band GSM/GPRS/UMTS/HSDPA/HSPA+, omni-directional, 4 dBi, 11 cm high
ANT-WCDMA-ANF-00: Five-band GSM/GPRS/UMTS/HSDPA/HSPA+, omni-directional, 0 dBi, glass fiber, N-type (female)
CRF-SMA(M)/N(M)-300: CFD200 cable, SMA male to N-type (male), 3 m

Package Checklist

- 1 MGate 5106-DNMB-GSM or MGate 5207-DNMB-HSPA
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card